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EXAMINER	
GOINS, DAVETTA WOODS	
ART UNIT	**PAPER NUMBER**
2632	21

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/558,386	MATTSON ET AL.	
	Examiner	Art Unit	
	Davetta W. Goins	2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *19*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 5-12, 14, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gager et al. (US Pat. 6,224,442 B1) in view of Sonderegger et al. (US Pat. 5,920,057).

In reference to claims 1, 27, 29, Gager discloses a) the claimed method of detecting a living person in the closed trunk, is met by respiration detector 40 which may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or more sensors used to "detect a person" within the trunk (col. 2, lines 43-64), b) the claimed method of detecting the operational condition of the vehicle, which is met by the system 30 of the vehicle10 which includes a respiration detector 40 that determines whether the engine of the vehicle is turned off or the vehicle is in "park" (col. 4, lines 42-63), and c) the claimed method of automatically opening the trunk of the vehicle in response to a predefined safe operational condition of the vehicle and the detection of the living person in the trunk, which is met by the respiration detector 40 which may automatically activate trunk compartment lid release 90 upon detection of person 12; the system will not activate the trunk release when the engine of the vehicle is running or unless the vehicle is in "park"(col. 3, lines 55-59). Although Gager does not disclose the claimed step of detecting the respiration of a person or

animal, he does disclose that the respiration detector 40 may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or more sensors used to "detect a person" within the trunk (col. 2, lines 43-64). Sonderegger discloses a device for measuring the occupancy in a vehicle. Specifically, a "person detector", preferably one that will detect the breathing of occupants in order to acquire the number of occupants without error. Other person detectors such as ultrasound detectors, infrared recorders, etc. may be used (col. 4, lines 11-34). Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle with an infrared sensor and Sonderegger teaches that it's well known in the art to use infrared sensors to detect persons using ultrasound or infrared sensors, it would have been obvious to one of ordinary skill in the art to incorporate a sensor for detecting the respiration of a respiring person, by using the breathing detector disclosed by Sonderegger, with the system of Gager, to ensure that only a person is detected within the trunk and prevent a false alarm that may be given by the detection of any other object moving within the vehicle's trunk.

In reference to claims 5-7, Gager discloses the claimed method further including the steps of providing a lighted switch in the trunk; and having a person in the trunk manually activate the switch to open the trunk from the inside, which is met by the respiration detector 40 which may cause an internal latch release 70 to be illuminated to indicate that pressing the latch release will cause the trunk compartment lid to be unlatched by person 12 that's detected by the respiration detector 40 (col. 3, lines 18-23).

In reference to claim 8, Gager discloses the claimed step of automatically opening the trunk of the vehicle when the vehicle is stopped and a living person or animal is detected in the trunk, which is met by the respiration detector 40 which will automatically open the latch release 70 once the vehicle is in "park" (col. 3, lines 18-59).

In reference to claim 9, Gager discloses the claimed step of providing an alarm but not opening the trunk of the vehicle when the vehicle is stopped and a living person or animal is detected in the trunk, which is met by the respiration detector 40 which will cause driver alert 60 to give a visual and/or audible warning to the driver of the vehicle upon detection of a person within a trunk, but the latch release 70 will remain locked unless the vehicle is detected as being either in "park" or with the engine turned off (col. 3, lines 1-59).

In reference to claim 10, Gager does not disclose the claimed step providing an alarm but not opening the trunk when a living person or animal is detected in the trunk and a back seat of the vehicle is unlatched to ventilate the trunk. However, Gager discloses a driver alert 60 which consists of visual and/or audible warning means to notify the driver of a person detected in the trunk of the vehicle (col. 3, lines 1-17); a respiration detector 40 which automatically opens the latch release 70 of the trunk of the vehicle (col. 3, lines 18-59). Therefore, it would have been obvious to one of ordinary skill in the art to open any part of the vehicle, such as the back seat of a vehicle, to allow one to exit from the trunk after a certain level of carbon dioxide has been detected indicating a person within the trunk.

In reference to claim 11, Gager discloses the claimed step of providing an audible alarm in the vehicle in response to detecting a living person or animal in the trunk, which is met by driver alert 60 consisting of visual and/or audible warning means located on or near the dashboard of the vehicle in a location that will attract the attention of the driver to inform them of a person locked in the trunk compartment (col. 3, lines 1-17).

In reference to claim 12, Gager discloses the claimed step of providing a visible alarm in the vehicle in response to detecting a living person or animal in the trunk, which is met by the respiration detector 40 which may cause an internal latch release 70 to be illuminated (col. 3, lines 18-23).

In reference to claim 14, Gager discloses the claimed step of activating the horn of the vehicle in response to detecting a living person or animal in the trunk, which is met by the car horn 82 and/or car alarm 84 of the vehicle which may be activated to attract others to the vehicle once the respiration detector 40 detects a person in the trunk (col. 3, lines 40-54).

In reference to claim 15, Gager discloses the claimed flashing the headlights of the vehicle in response to detecting a living person or animal in the trunk, which is met by respiration detector causes the headlights 80 of the vehicle to be illuminated or to flash on and off when the respiration of a person is detected (col. 3, lines 40-50).

In reference to claim 28, Gager discloses a) the claimed method of detecting the presence of a respiring living person or animal in the closed trunk of the vehicle, is met by respiration detector 40 which may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or more sensors used to "detect a person" within the trunk (Any living person or animal is breathing. Since Gager's reference discloses a respiration detector 40 used to detect a person 12, it reads on this claimed limitation) (col. 2, lines 43-64), b) the claimed detecting the operational condition of the vehicle, is met by the system 30 of the vehicle10 which includes a respiration detector 40 that determines whether the engine of the vehicle is turned off or the vehicle is in "park" (col. 4, lines 42-63), c) the claimed method automatically selecting at least one for a plurality of alarms based upon the operational condition of the vehicle and the detected respiration of the living person or animal in the trunk, is met by the respiration detector 40 which may automatically activate trunk compartment lid release 90 upon detection of person 12; the system will not activate the trunk release when the engine of the vehicle is running or unless the vehicle is in "park"(col. 3, lines 55-59), and d) the claimed method activating the at least one selected alarm, which is met by driver alert 60 consisting of visual and/or audible warning means located on or near the dashboard of the vehicle in a location that will attract the attention of the driver to inform them of a person locked in the trunk compartment (col. 3, lines 1-17). Although Gager does not disclose the claimed step of detecting the respiration of a person or animal, he does disclose that the respiration detector 40 may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or more sensors used to "detect a person" within the trunk (col. 2, lines 43-64). Sonderegger discloses a device for

measuring the occupancy in a vehicle. Specifically, a "person detector", preferably one that will detect the breathing of occupants in order to acquire the number of occupants without error. Other person detectors such as ultrasound detectors, infrared recorders, etc. may be used (col. 4, lines 11-34). Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle with an infrared sensor and Sonderegger teaches that it's well known in the art to use infrared sensors to detect persons using ultrasound or infrared sensors, it would have been obvious to one of ordinary skill in the art to incorporate a sensor for detecting the respiration of a respiring person, by using the breathing detector disclosed by Sonderegger, with the system of Gager, to ensure that only a person is detected within the trunk and prevent a false alarm that may be given by the detection of any other object moving within the vehicle's trunk.

3. Claims 2-4, 16-26, and 30-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gager in view of Sonderegger et al. as applied to claim1 above, and further in view of Federspiel (US Pat. 5,464,369).

In reference to claims 2, 42, 43, neither Gager nor Sonderegger specifically disclose the claimed step of detecting the respiration of a living person including the step of detecting the CO_2 exhaled by the person or animal in respiration. However, Gager does disclose that the presence detector 40 may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or more sensors used to "detect a person" within the trunk (col. 2, lines 43-64). Sonderegger discloses a device for measuring the occupancy in a vehicle. Specifically, a "person detector", preferably one that will detect the

breathing of occupants in order to acquire the number of occupants without error. Federspiel discloses a method of detecting carbon dioxide level generated by persons within an "enclosed" space (col. 4, lines 7-20). A sensor 22 is a non-dispersive infrared sensor that sends a signal representative of the concentration of carbon dioxide in room 28 (col. 10, lines 26-50). Federspiel also discloses that it is well known in the art to detect humans based on sound, infrared radiation, or vision (col. 2, lines 47-60). Since Gager discloses a device used to detect the respiration of a "person" within the trunk of a vehicle with an infrared sensor and Sonderegger and Federspiel teach that it's well known in the art to use infrared sensors to detect humans using infrared sensors, it would have been obvious to one of ordinary skill in the art to incorporate a sensor for detecting the respiration of a respiring living person by using a carbon dioxide detector, as disclosed by Federspiel, with the system of Gager, to ensure that only a person is detected within the trunk and prevent a false alarm that may be given by the detection of any other object moving within the vehicle's trunk.

In reference to claim 3, neither Gager nor Sonderegger disclose the claimed step of detecting the respiration of a living person or animal including the step of detecting a rise in the level of CO_2 in the trunk over time in relation to a predefined baseline CO_2. Federspiel discloses a method of detecting the level of carbon dioxide in an enclosed space. A sensor 22 is a non-dispersive infrared sensor that sends a signal representative of the concentration of carbon dioxide in room 28 (col. 10, lines 26-50). Federspiel also discloses that it is well known in the art to detect humans based on sound, infrared radiation, or vision (col. 2, lines 47-60). The values of measured carbon dioxide are determined over a predefined time intervals. Once the rate at which

carbon dioxide is being generated within the room 28 is greater than the predetermined threshold value, CPU 38 sends a signal to control unit 46 to cause control unit 46 to activate alarm 34 (col. 11, lines 5-51). Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle with infrared, it would have been obvious to one of ordinary skill in the art to incorporate a method of detecting the rise in the level of carbon dioxide, as disclosed by Federspiel, with the system of Gager, to ensure that only persons are detected within the trunk and to prevent any false alarms that may occur without the detected level reaching a threshold level.

In reference to claim 4, Gager does not disclose detecting a baseline concentration of CO_2 after the trunk has been opened; comparing the concentration of CO_2 measured for a time after the trunk is closed to the baseline concentration of CO_2; detecting the concentration of CO_2 for a predetermined time, or the claimed method of detecting a the respiration of a living person or animal when the concentration in the trunk exceeds a baseline concentration by a predetermined amount. However, Gager does disclose a respiration detector 40 which may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or more sensors used to "detect a person" within the trunk (col. 2, lines 43-64). Sonderegger discloses a device for measuring the occupancy in a vehicle. Specifically, a "person detector", preferably one that will detect the breathing of occupants in order to acquire the number of occupants without error. Federspiel discloses a method of detecting carbon dioxide level generated by persons within an "enclosed" space (col. 4, lines 7-20). A sensor 22 is a non-dispersive infrared sensor that sends a signal representative of the concentration of

carbon dioxide in room 28 (col. 10, lines 26-50). The carbon dioxide within the enclosed space is detected within a certain time interval (a predetermined time after the enclosure in closed) (col. 6, lines 24-55). Federspiel also discloses that it is well known in the art to detect humans based on sound, infrared radiation, or vision (col. 2, lines 47-60). Since Gager discloses a device used to detect a person in the trunk, Sonderegger discloses a person detector within a vehicle, and Sonderegger and Federspiel teach that it's well known in the art to use infrared sensors to detect humans using infrared sensors, it would have been obvious to one of ordinary skill in the art to incorporate a sensor for detecting the respiration of CO_2 for a predetermined time after the enclosure is closed to ambient air, such as the carbon dioxide detection disclosed by Federspiel, with the system of Gager, to ensure that only a person is detected within the trunk and prevent a false alarm that may be given if not enough time is given to ventilate the vehicle before detecting a person or by the detection of any other object moving within the vehicle's trunk.

In reference to claims 16, 19, 22, Gager discloses a) the claimed method of ventilating the enclosure to ambient air, which is met by the trunk compartment lid 24 being opened (col.3, lines 55-59), b) the claimed method of closing the enclosure to ambient air, which is met by the trunk compartment lid 24 being closed (closed to ambient air) while the system is detecting the respiration of a person within a locked trunk (col. 2, lines 35-42), and c) the claimed method of providing a rescue operation in response to detecting above a base line concentration in the closed enclosure, which is met by the respiration detector 40 may automatically activate trunk compartment lid release 90 upon detection of person 12; the detection of the person being above a baseline (col. 3, lines 55-59). Gager does not disclose the claimed method of sensing a base

line concentration of CO_2 in the enclosure and sensing an increase in the concentration of CO_2 above the base line concentration for a predetermined time after the enclosure is closed to ambient air nor providing a rescue operation in response to detecting CO_2 above the baseline concentration. However, Gager does disclose a presence detector 40 may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or more sensors used to "detect a person" within the trunk (col. 2, lines 43-64). Sonderegger discloses a device for measuring the occupancy in a vehicle. Specifically, a "person detector", preferably one that will detect the breathing of occupants in order to acquire the number of occupants without error. Federspiel discloses a method of detecting carbon dioxide level generated by persons within an "enclosed" space (col. 4, lines 7-20). A sensor 22 is a non-dispersive infrared sensor that sends a signal representative of the concentration of carbon dioxide in room 28 (col. 10, lines 26-50). The carbon dioxide within the enclosed space is detected within a certain time interval (a predetermined time after the enclosure in closed) (col. 6, lines 24-55). Federspiel also discloses that it is well known in the art to detect humans based on sound, infrared radiation, or vision (col. 2, lines 47-60). Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle with an infrared sensor, Sonderegger discloses a breathing detector within a vehicle, and both Sonderegger and Federspiel teach that it's well known in the art to use infrared sensors to detect humans using infrared sensors, it would have been obvious to one of ordinary skill in the art at the time of the invention that Gager's opening of the trunk allows the trunk to be ventilated in the sense that the compartment is now opened to ambient air and provides a baseline of "0". Once the compartment lid is closed (closed to ambient air), the comparison between the baseline of the

opened enclosure and closed enclosure would have to take place in order for the respiration detector to determine whether a person 12 is within the vehicle. It would also have been obvious to incorporate a sensor for detecting the respiration of CO_2 for a predetermined time after the enclosure is closed to ambient air, such as the carbon dioxide detection disclosed by Federspiel, with the system of Gager, to ensure that only a person is detected within the trunk and prevent a false alarm that may be given if not enough time is given to ventilate the vehicle before detecting a person or by the detection of any other object moving within the vehicle's trunk.

In reference to claim 17, Gager discloses the claimed method including the steps of using a vehicle trunk as the enclosure and automatically opening the trunk of the vehicle as a rescue operation when the vehicle is stationary, which is met by the respiration detector 40 may automatically activate trunk compartment lid release 90 upon detection of person 12, such as when the engine of the vehicle is not running or when the vehicle is in "park" (col. 3, lines 18-59).

In reference to claim 18, Gager does not disclose the claimed step of using a passenger compartment of a vehicle as the enclosure and automatically ventilating the compartment as a rescue operation. However, he does teach a presence detector 40 may automatically activate trunk compartment lid release 90 upon detection of person 12. Federspiel discloses a method of detecting carbon dioxide level generated by persons within an "enclosed" space (col. 4, lines 7-20). Federspiel also discloses an HVAC system 36 used to ventilate a room upon the threshold of the carbon dioxide being reached (col. 13, lines 10-39). Since Gager discloses a device used

to detect the presence of a "person" within the trunk of a vehicle with an infrared sensor and Federspiel teaches that it's well known in the art to use infrared sensors to detect humans using infrared sensors, it would have been obvious to one of ordinary skill in the art to incorporate a CO_2 sensor, as disclosed by Federspiel, with the system of Gager, and use the sensor for other parts of the vehicle to ensure that not only will a person be detected within the trunk and gain access to the outside, but to prevent a high level of carbon dioxide from affecting any of the passengers riding or driving in the vehicle.

In reference to claim 20, Gager discloses a) the claimed sensor for detecting a baseline concentration of after the trunk has been opened and after the trunk is closed, which is met by the trunk compartment lid 24 being opened (therefore ventilating the trunk and providing a baseline of 0) (col.3, lines 55-59); and the trunk compartment lid 24 being closed (closed to ambient air) while the system is detecting the respiration of a person within a locked trunk (the concentration being greater than the baseline of when the trunk was open) (col. 2, lines 35-42), and b) the claimed microcontroller for comparing the concentration of when the trunk is closed to the baseline concentration and generating of an alarm indicating the respiration of a person in the trunk when the concentration in the closed trunk exceeds the baseline concentration, which is met by the respiration detector 40 including a control circuitry used to operate visual and/or audible warning (col.2, lines 56-64; col. 3, lines 1-17). Although Gager does not disclose the claimed CO_2 baseline concentration in the trunk for a time after the trunk is closed, he does disclose a presence detector 40, which may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or

more sensors used to "detect a person" within the trunk (col. 2, lines 43-64). Sonderegger discloses a device for measuring the occupancy in a vehicle. Specifically, a "person detector", preferably one that will detect the breathing of occupants in order to acquire the number of occupants without error. Federspiel discloses a method of detecting carbon dioxide level generated by persons within an "enclosed" space (col. 4, lines 7-20). A sensor 22 is a non-dispersive infrared sensor that sends a signal representative of the concentration of carbon dioxide in room 28 (col. 10, lines 26-50). The carbon dioxide within the enclosed space is detected within a certain time interval (a predetermined time after the enclosure in closed) (col. 6, lines 24-55). Federspiel also discloses that it is well known in the art to detect humans based on sound, infrared radiation, or vision (col. 2, lines 47-60). Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle with an infrared sensor and both Sonderegger and Federspiel teach that it's well known in the art to use infrared sensors to detect humans using infrared sensors, it would have been obvious to one of ordinary skill in the art to incorporate a sensor for detecting the respiration of CO_2 for a predetermined time after the enclosure is closed to ambient air, such as the carbon dioxide detection disclosed by Federspiel, within a vehicle, as disclosed by Sonderegger, with the system of Gager, to ensure that only a person is detected within the trunk and prevent a false alarm that may be given if not enough time is given to ventilate the vehicle before detecting a person or by the detection of any other object moving within the vehicle's trunk.

In reference to claim 21, Gager discloses the claimed means for sensing the movement of the vehicle and means for opening the trunk when a person is sensed in the trunk and the vehicle is

stopped, which is met by the respiration detector 40 may automatically activate trunk compartment lid release 90 upon detection of person 12, such as when the engine of the vehicle is not running or when the vehicle is in "park" (col. 3, lines 18-59).

In reference to claim 23, Gager discloses the claimed method of ventilating the trunk in response to the alarm, which is met by automatically activating trunk compartment lid release 90 upon detection of person 12 (opening the trunk, therefore ventilating).

In reference to claim 24, Gager discloses the claimed method including the step of ventilating the trunk in response to the alarm and the detection of a predefined temperature in the closed trunk, which is met by the respiration detector 40 determining a person 12 within the trunk based on a heat sensor such as an infrared sensor (col. 2, lines52-56); after the external alert features of the respiration system 30 have been activated, the automatic trunk lid release feature 90 will be activated (therefore ventilating the vehicle) (col. 4, lines 23-41).

In reference to claim 25, although Gager does not disclose the claimed disclose the claimed method providing an alarm when the respiration of the living person or animal is detected, he does disclose a driver alert 60 consisting of visual and/or audible warning means located on or near the dashboard of the vehicle in a location that will attract the attention of the driver to inform them of a person locked in the trunk compartment (col. 3, lines 1-17). Sonderegger discloses a device for measuring the occupancy in a vehicle. Specifically, a "person detector", preferably one that will detect the breathing of occupants in order to acquire the number of

occupants without error. Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle with an infrared sensor and Sonderegger teaches that it's well known in the art to use infrared sensors to detect persons using ultrasound or infrared sensors, it would have been obvious to one of ordinary skill in the art to determine the respiration of a living organism before alerting the driver to ensure that only a person is detected within the trunk and prevent a false alarm that may be given by the detection of any other object moving within the vehicle's trunk.

In reference to claim 26, although Gager does not specifically disclose the claimed method providing an alarm when the respiration of the living person or animal is detected and selecting the type of alarm based upon the operation condition of the vehicle, he does disclose a driver alert 60 consisting of visual and/or audible warning means located on or near the dashboard of the vehicle in a location that will attract the attention of the driver to inform them of a person locked in the trunk compartment. In addition to the driver alert 60, the headlights 80 will be activated once the respiration detector 40 detects a person within the trunk and the driver fails to notice the driver alert 60 or the while the driver is away from the vehicle (col. 3, lines 1-54). Sonderegger discloses a device for measuring the occupancy in a vehicle. Specifically, a "person detector", preferably one that will detect the breathing of occupants in order to acquire the number of occupants without error. Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle with an infrared sensor and Sonderegger teaches that it's well known in the art to use infrared sensors to detect persons using ultrasound or infrared sensors, it would have been obvious to one of ordinary skill in the art to determine the respiration

of a living organism before alerting the driver to ensure that only a person is detected within the trunk and prevent a false alarm that may be given by the detection of any other object moving within the vehicle's trunk.

In reference to claim 30, Gager discloses the claimed method of disposing a living person or animal within the closed trunk of the vehicle, which is met by person 12 within the trunk of the vehicle (col. 2, lines 43-64). Federspiel discloses a method of detecting carbon dioxide level generated by persons within an "enclosed" space (col. 4, lines 7-20). A sensor 22 is a non-dispersive infrared sensor that sends a signal representative of the concentration of carbon dioxide in room 28 (col. 10, lines 26-50). Federspiel also discloses that it is well known in the art to detect humans based on sound, infrared radiation, or vision (col. 2, lines 47-60). Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle with an infrared sensor and Federspiel teaches that it's well known in the art to use infrared sensors to detect humans using infrared sensors, it would have been obvious to one of ordinary skill in the art to incorporate a sensor for detecting the respiration of a respiring living person or animal, as the carbon dioxide detection disclosed by Federspiel, with the system of Gager, to ensure that only a person is detected within the trunk and prevent a false alarm that may be given by the detection of any other object moving within the vehicle's trunk.

In reference to claim 31, Gager does not disclose the claimed breathing detector which is disposed within the trunk, which is adapted to detect the breathing of the individual, and which generates a signal upon the detection of the breathing, or controller assembly which is

communicatively coupled to the breathing detector, which receives the signal, and which opens the trunk upon receipt of the signal. However, Gager discloses a vehicle system comprising a presence detector 40, located within the trunk, used to detect a person based on the person's movement. The respiration detector 40 may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or more sensors (col. 2, lines 43-64). Federspiel discloses a method of detecting carbon dioxide level generated by persons within an "enclosed" space (col. 4, lines 7-20). Federspiel also discloses that it is well known in the art to detect humans based on sound, infrared radiation, or vision (col. 2, lines 47-60). Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle, it would have been obvious to one of ordinary skill in the art to incorporate a breathing detector, as the carbon dioxide detection disclosed by Federspiel, with the system of Gager, to ensure that only a person is detected within the trunk and prevent a false alarm that may be given by the detection of any other object moving within the vehicle's trunk.

In reference to claim 32, Gager does not disclose the claimed carbon dioxide being emitted by the individual as the individual breathes and wherein the breathing detector detects the respiration of the carbon dioxide within the trunk. However, he does disclose that the respiration detector 40 may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or more sensors (col. 2, lines 43-64). Federspiel discloses a method of detecting carbon dioxide level generated by persons within an "enclosed" space (col. 4, lines 7-20). Federspiel also discloses that it is well known in the art to

detect humans based on sound, infrared radiation, or vision (col. 2, lines 47-60). Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle, it would have been obvious to one of ordinary skill in the art to incorporate a method of detecting the respiration of a respiring living person or animal, as the carbon dioxide detection disclosed by Federspiel, with the system of Gager, to ensure that only a person is detected within the trunk and prevent a false alarm that may be given by the detection of any other object moving within the vehicle's trunk.

In reference to claim 33, Gager discloses the claimed vehicle is of the further type including an ignition switch which may be selectively moved to a certain position and the controller assembly is coupled to the ignition switch, senses the placement of the ignition switch in the certain position, and causes the trunk to be opened only if the ignition switch is placed in the certain position, which is met by respiration detector 40 used to sense a person within the trunk and enables the latch of the trunk only after the ignition is cycled during a key override 42 (col. 4, lines 42-63). Gager does not disclose the claimed the trunk being opened in response to the signal from the breathing detector. However, he does disclose that the respiration detector 40 may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or more sensors (col. 2, lines 43-64). Federspiel discloses a method of detecting carbon dioxide level generated by persons within an "enclosed" space (col. 4, lines 7-20). Federspiel also discloses that it is well known in the art to detect humans based on sound, infrared radiation, or vision (col. 2, lines 47-60). Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle, it

would have been obvious to one of ordinary skill in the art to incorporate a method of detecting the respiration of a respiring living person or animal, as the carbon dioxide detection disclosed by Federspiel, with the system of Gager, to ensure that only a person is detected within the trunk and prevent a false alarm that may be given by the detection of any other object moving within the vehicle's trunk.

In reference to claim 34, Gager discloses the claimed vehicle is of type which is selectively driven and wherein the controller assembly preventing the trunk from being open when the vehicle is driven, which is met by the latch release 70 will open the trunk as long as the vehicle's engine is off or the vehicle is in "park" (col. 3, lines 18-39).

In reference to claim 35, Gager discloses the claimed illuminated switch being disposed within the trunk, which is coupled to the controller assembly, and which selectively communicates a second signal to the controller assembly upon being touched, which is met by the respiration detector 40, including control circuitry, is used to determine motion by a person within the locked trunk (col. 2, lines 51-64). Upon detection, the respiration detector 40 may cause an internal latch release 70 to be illuminated. A provision is made to lock out starting of the vehicle engine if latch release 70 is activated, such that the system will only open the trunk if the vehicle's engine is off or the vehicle is in "park" (col. 3, lines 18-39).

In reference to claim 36, Gager discloses the claimed controller assembly, upon receipt of the second signal, opens the trunk, which is met by the latch release 70 will open the trunk as long as the vehicle's engine is off or the vehicle is in "park" (col. 3, lines 18-39).

In reference to claim 37, Gager does not disclose the claimed breathing detector measures the amount of carbon dioxide which is resident within the trunk, stores a certain value, compares the measured amount of carbon dioxide to the certain value, and generates the signal only if the measured amount of the carbon dioxide is greater than the certain value. However, he does disclose that the presence detector 40 may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or more sensors (col. 2, lines 43-64). Federspiel discloses a method of detecting carbon dioxide level generated by persons within an "enclosed" space (col. 4, lines 7-20). Federspiel discloses a method of detecting the level of carbon dioxide in an enclosed space. A sensor 22 is a non-dispersive infrared sensor that sends a signal representative of the concentration of carbon dioxide in room 28 (col. 10, lines 26-50). Federspiel also discloses that it is well known in the art to detect humans based on sound, infrared radiation, or vision (col. 2, lines 47-60). The values of measured carbon dioxide are determined over a predefined time intervals. Once the rate at which carbon dioxide is being generated within the room 28 is greater than the predetermined threshold value, CPU 38 sends a signal to control unit 46 to cause control unit 46 to activate alarm 34 (col. 11, lines 5-51). Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle with infrared, it would have been obvious to one of ordinary skill in the art to incorporate the process of comparing a measured amount of

carbon dioxide to a certain stored value, as disclosed by Federspiel, with the system of Gager, to ensure that only persons are detected within the trunk and to prevent any false alarms that may occur without the detected level reaching a threshold level.

In reference to claim 38, Gager discloses the claimed controller assembly further including a time which allows the detection system to be operable for a certain period of time, which is met by motion is detected within the trunk during a time delay period before actuating the trunk lid release feature 90 (col. 4, lines 64-67 and col. 5, lines 1-8).

In reference to claim 39, Gager discloses the claimed individual comprises a child, which is met by a respiration detector 20 to detect the respiration of, for example, child 12 (col. 2, lines 35-42).

In reference to claim 40, Gager does not disclose the claimed method of measuring an amount of carbon-dioxide within the trunk of the vehicle, and using the measured amount of carbon dioxide to determine the respiration of the child within the trunk of the vehicle. However, he does disclose that the respiration detector 40 may be a motion sensor, or a heat sensor such as an infrared sensor, or a sonic sensor such as an ultrasonic sound sensor, or a combination of one or more sensors (col. 2, lines 43-64). Federspiel discloses a method of detecting carbon dioxide level generated by persons within an "enclosed" space (col. 4, lines 7-20). Federspiel also discloses that it is well known in the art to detect humans based on sound, infrared radiation, or vision (col. 2, lines 47-60). Since Gager discloses a device used to detect the presence of a

"person" within the trunk of a vehicle, it would have been obvious to one of ordinary skill in the art to incorporate a method of detecting the respiration of a respiring living person or animal, as the carbon dioxide detection disclosed by Federspiel, with the system of Gager, to ensure that only a person is detected within the trunk and prevent a false alarm that may be given by the detection of any other object moving within the vehicle's trunk.

In reference to claim 41, Gager discloses the claimed comprising the step of detecting the respiration of the child only when the vehicle is stationary, which is met by the respiration detector 40 may automatically activate trunk compartment lid release 90 upon detection of person 12, such as when the engine of the vehicle is not running or when the vehicle is in "park" (col. 3, lines 18-59).

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gager et al. in view of Sonderegger et al. as applied to claim1 above, and further in view of Nesbitt (US Pat. 6,150,927).

In reference to claim 13, Gager discloses the claimed step of providing an alarm signal to a security center in response to detecting a living person or animal in the trunk. However, Gager does disclose a driver alert 60 consisting of visual and/or audible warning means located on or near the dashboard of the vehicle in a location that will attract the attention of the driver to inform them of a person locked in the trunk compartment (col. 3, lines 1-17). Sonderegger discloses a device for measuring the occupancy in a vehicle. Specifically, a "person detector",

preferably one that will detect the breathing of occupants in order to acquire the number of occupants without error. Other person detectors such as ultrasound detectors, infrared recorders, etc. may be used (col. 4, lines 11-34). Since Gager discloses a device used to detect the presence of a "person" within the trunk of a vehicle with an infrared sensor and Sonderegger teaches that it's well known in the art to use infrared sensors to detect persons using ultrasound or infrared sensors, it would have been obvious to one of ordinary skill in the art to incorporate a sensor for detecting the respiration of a respiring person, by using the breathing detector disclosed by Sonderegger, with the system of Gager, to ensure that only a person is detected within the trunk and prevent a false alarm that may be given by the detection of any other object moving within the vehicle's trunk.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davetta W. Goins whose telephone number is 703-306-2761. The examiner can normally be reached on Mon-Fri with every other Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on 703-308-6730. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-7666.

Davetta W. Goins
Art Unit 2632

D.W.G.
February 5, 2004